

AP20 Rec'd PCT/PTO 03 AUG 2006

USPTO/ST/08a (07-05)

Approved for use through 07/31/2006. OMB 0651-0031  
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Substitute for form 1449A/PTO			<b>Complete if Known</b>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (Use as many sheets as necessary)			Application Number	New U.S. National Phase Application of PCT/KR2005/000356
			Filing Date	August 31, 2006 <b>2006588359</b>
			First Named Inventor	Sung et al.
			Art Unit	Not yet assigned
			Examiner Name	Not yet assigned
			Attorney Docket Number	4240-147
Sheet	1	of	2	

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No.	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code <sup>2</sup> (if known)			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No.	Foreign Patent Document	Publication Date MM- DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> - Number <sup>4</sup> - Kind Code <sup>5</sup> (if known)				

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	AA	AGTERBERG, MARJA, ET AL., Outer membrane PhoE protein of Escherichia coli as a carrier for foreign antigenic determinants: immunology of epitop..., Vaccine, February 1990, Page(s) 85-91, Volume 8, Number 1	
	AB	CHARBIT, A., ET AL., Presentation of two epitopes of the preS2 region of hepatitis B virus on live recombinant bacteria, J. Immunol., September 1, 1987, Page(s) 1658-1664, Volume 139, Number 5	
	AC	FELICI, FRANCO, ET AL., Selection of antibody ligands from a large library of oligopeptides expressed on a multivalent exposition vector, J. Mol. Biol., November 20, 1991, Page(s) 301-310, Volume 222, Number 2	

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup>Applicant's unique citation designation number (optional). <sup>2</sup>See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup>Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup>For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup>Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup>Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Substitute for form 1449B/PTO				<b>Complete if Known</b>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (Use as many sheets as necessary)				Application Number	New U.S. National Phase Application of PCT/KR2005/000356
				Filing Date	August 3, 2006 <b>80/588359</b>
				First Named Inventor	Sung et al.
				Art Unit	Not yet assigned
				Examiner Name	Not yet assigned
Sheet	2	of	2	Attorney Docket Number	4240-147

NON PATENT LITERATURE DOCUMENTS (cont'd.)		
Examiner Initials*		
AD	FRANCISCO, J.A., ET AL., Transport and Anchoring of $\beta$ -Lactamase to the External Surface of Escherichia coli, April 1, 1992, Page(s) 2713-2717, Volume 89, Number 7	
AE	FUCHS, P., ET AL., Targeting recombinant antibodies to the surface of Escherichia coli: fusion to a peptidoglycan associated lipoprotein, Bio/Technology, December 1991, Page(s) 1369-1372, Volume 9, Number 12	
AF	HEDEGAARD, LISBETH, ET AL., Type 1 fimbriae of Escherichia coli as carriers of heterologous antigenic sequences, Gene, December 21, 1989, Page(s) 115-124, Volume 85, Number 1	
AG	JUNG, HEUNG-CHAE, ET AL., Surface display of Zymomonas mobilis levansucrase by using the ice-nucleation protein of Pseudomonas syringae, Nature Biotechnology, June 1998, Page(s) 576-580, Volume 16, Number 6	
AH	JUNG, H.C., ET AL., Expression of carboxymethylcellulase on the surface of Escherichia coli using Pseudomonas syringae ice nucleation..., Enzyme Microb. Technol., April 1998, Page(s) 348-354, Volume 22, Number 5	
AI	KORNACKER, M.G., ET AL., The normally periplasmic enzyme beta-lactamase is specifically and efficiently translocated through the Escherichia..., Molecular Microbiology, July 1990, Page(s) 1101-1109, Volume 4, Number 7	
AJ	LEE, JONG-SOO, ET AL., Surface-displayed viral antigens on Salmonella carrier vaccine, Nature Biotechnology, June 2000, Page(s) 645-648, Volume 18, Number 6	
AK	MEDAGLINI, D., ET AL., Mucosal and Systemic Immune Responses to a Recombinant Protein Expressed on the Surface of the Oral Commensal Bacterium, Proc. Natl. Acad. Sci. USA, July 18, 1995, Page(s) 6868-6872, Volume 92, Number 15	
AL	PARRISH, C.R., ET AL., Antigenic relationships between canine parvovirus type 2, feline panleukopenia virus and mink enteritis virus using conv. Arch. Virol., December 1982, Page(s) 267-278, Volume 72, Number 4	
AM	SIEGL, G., ET AL., Characteristics and taxonomy of Parvoviridae, Intervirology, 1985, Page(s) 61-73, Volume 23, Number 2	

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup>Applicant's unique citation designation number (optional). <sup>2</sup>Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.